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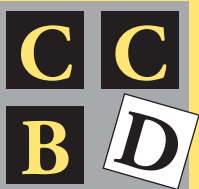
# Behavioral Disorders

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# Interventions for Students With Behavioral Disorders: An International Literature Review

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*ABSTRACT: Students with emotional and behavioral disorders (EBD) are found internationally. This systematic literature review identifies interventions conducted on these students. Although the U.S. produces abundant studies on effective school-based academic and behavioral interventions, a search of over 4,000 articles published over 6 years yielded only 11 international studies meeting the selection criteria. Out of 11 qualified studies, 6 reported therapeutic treatments, 8 targeted elementary students, 9 were conducted in self-contained classrooms, and 9 were from the U.K. These findings indicate a paucity of quantitative research determining effectiveness of EBD interventions currently used in schools worldwide. The results indicate that quantitative studies are not the standard of evidence-based practice internationally, and diagnostic criteria and terms used to identify students vary worldwide.*

■ Students with behavior disorders are a concern for educators worldwide. Researchers from the United Kingdom report that “in Scotland, England, and Wales, the rise in numbers of pupils (with behavioural difficulties) excluded from school has provoked considerable concern amongst policymakers and professionals in education and beyond” (Head, Kane, & Cogan, 2003, p. 33). An Australian council on education recognized that “behavioural problems were both ongoing and growing and were a major concern nationally” (De Jong, 2005, p. 353); a team of Canadian researchers stated that “behaviour disorders represent a major concern in today’s schools” (Glendron, Royer, Bertrand, & Potvin, 2004, p. 249); and Chilean researchers reported that “in Latin America there are no published longitudinal follow-up studies of prevalence and persistence of emotional and behavioral problems in school-aged children” (de la Barra, Toledo, & Rodriguez, 2005, p. 228). Yet, most literature reviews on classroom interventions for behavior problems and emotional and behavioral disorders (EBD) report only American studies (Lewis, Hudson, Richter, & Johnson, 2004; Lloyd, Forness, & Kavale, 1998; Stage & Quiroz, 1997).

One difficulty teachers and researchers face identifying effective interventions for students with EBD is defining this population of students.

A multitude of terms used worldwide include students with (a) emotional and behaviour difficulties (Renwick, 2005); (b) social, emotional, and behaviour difficulties (SEBD; Cooper, P., Arnold, R., & Boyd, E., 2001); (c) special education needs (SEN; Cullen-Powell & Barlow, 2005); (d) behaviour problems (Desbiens & Royer, 2003); and (e) emotional and psychiatric difficulties (Sage, 2002); as well as (f) disruptive boys (Charlesbois, Brendgen, Vitaro, Normandeau, & Boudreau, 2003); (g) students that are seriously emotionally disturbed (Topping & Flynn, 2004); and (h) students that are aggressive who meet the American Psychiatric Association DSM-IV criteria for conduct disorder, oppositional defiant disorder, or disruptive behavior disorder-not otherwise specified (DBD-NOS; van Manen, Prins, & Emmelkamp, 2004).

In the United States children are defined as having EBD if they exhibit one or more of the following behaviors over an extended period of time and to a marked degree: (a) an inability to learn that cannot be explained by intellectual, sensory, or health factors; (b) an inability to build or maintain satisfactory interpersonal relationships with peers or teachers; (c) inappropriate behaviors or feelings under normal circumstances; (d) a general mood of unhappiness or depression; and (e) a tendency to develop physical symptoms or fears

associated with personal or school problems (Individuals With Disabilities Education Improvement Act, IDEA, 2004). EBD in the United States is diagnosed in approximately 1% of school-age children and accounts for 8.2% of all students enrolled in federally funded special education programs (Bradley & Monfore, 2004). However, according to the National Institute of Mental Health (1990), the prevalence of mental and emotional problems in children and adolescents is as high as 22%. Bradley and Monfore cite a U.S. Department of Education report showing that 80% of students with EBD were male, 30% of students with EBD were educated outside of the general education classroom for the majority of their school day, and 50% of the students with EBD dropped out of school before graduation. They also report that 72% of high school-age students with EBD were suspended or expelled from school compared to only 22% of students without disabilities. This clearly indicates that the United States has a documented need for school-based interventions for these students. Other countries may have similar needs. But since there is a lack of international systematic research, it is difficult to make that determination.

Having an agreed upon definition of EBD enables educators to more easily identify effective evidence-based practices for these students. Numerous literature reviews on effective interventions for students with EBD in the United States are available on topics such as (a) academics (Hodge, Riccomini, Buford, & Herbst, 2006; Mooney, Epstein, Reid, & Nelson, 2003; Rivera, Al-Otaiba, & Koorland, 2006; Ryan, Reid, & Epstein, 2004); (b) behavior (Conroy, Dunlap, Clarke, & Alter, 2005; Hieneman, Dunlap, & Kincaid, 2005; Maag, & Swearer, 2005); (c) social skills training (Beelmann, Pfungsten, & Losel, 1994; Mathur, Kavale, Quinn, Forness, & Rutherford, 1998; Singh, Deitz, Epstein, & Singh, 1991); and (d) general best practices (Lewis et al., 2004; Lloyd et al., 1998; Stage & Quiroz, 1997). Examples of scientifically supported intervention practices for EBD from the Lewis et al. study include (a) using teacher praise for positive reinforcement; (b) providing opportunities for students to respond during instruction; and (c) using positive behavior support (PBS) such as functional behavior assessments (FBA), social skills instruction, teaching for desired replacement behaviors and self-management, and schoolwide systems of positive behavior support (SW-PBS). Additional

research-based interventions identified by Stage and Quiroz for decreasing disruptive classroom behavior in the classroom include (a) group contingency, (b) self-management, (c) differential reinforcement, and (d) token economies. Together, these studies, based primarily on a behavioral theoretical model, provide a concise yet comprehensive overview of effective classroom interventions for EBD in the United States.

As previously stated, researchers from the United Kingdom, Canada, Australia, and Chile report increased national concern over students with behavior challenges in school. There is clearly a need for international research in this area to determine effective, culturally relevant practices for intervention for students with EBD. This literature review provides a comprehensive analysis of quantitative research conducted outside the United States on classroom interventions for students with behavior disorders, however defined by the local culture. Specifically we investigated (a) empirically researched classroom interventions, (b) research methodology, (c) assessment instruments, (d) terms used to define or describe students with behavior disorders and diagnostic criteria used to identify a student as having a behavior disorder, (e) age and gender of students in studies, (f) setting where students received the intervention for their problem behavior, and (g) countries publishing empirical research literature on this topic in English language journals.

## Method

We established a two-step process a priori to conduct a comprehensive search for quantitative research on interventions for students with behavior disorders in school. Search and selection methodology included searching library databases using identified keywords and hand searching articles in special needs journals with an international focus identified by using the Google search engine on the World Wide Web.

## Procedures

### Search Procedures

The methodology for this study was partially based on a literature review reported by Artiles, Trent, and Kuan (1997). After

consulting with a university librarian, we chose several large electronic databases that reference journals from subject areas related to this topic. We decided to cast a wide net with descriptive terms in order to capture the broadest range of articles in this topic area. The keywords included (a) emotion\* or behavior\* or behaviour\* or mental-health, (b) disabil\* or disorder\* or disturb\* or problem or illness\*, and (c) intervention\* or practice\*. The asterisk (\*) indicates acceptable keywords could have various endings such as disabil-*ity* or disabil-*ities*.

An Internet search using the Google search engine identified additional electronic and paper journals focused on behavior disorders, special education, and special needs which may not have been indexed in the previously searched databases. Keywords used in the search included international, journal, special education, and special needs. When journals were found, issues were hand searched for articles meeting the criteria described in the selection procedure section. When publishers of international books and journals were found, their collection was also searched for journals focusing on the topics outlined previously.

## Selection Procedures

Seven criteria were established to select quantitative articles relevant to this review. To be selected for this review, the articles met all of the following criteria:

1. Published in peer reviewed journals.
2. Focused on students with behavior problems outside of the United States.
3. Published between 2000 and 2005 to give a current representation of intervention implemented throughout the world.
4. Used quantitative studies using single-subject, experimental, quasi-experimental, or mixed research method designs.
5. Identified participants as children and adolescents in preschool through high school identified as having behavior problems. All regional definitions of behavior problems were accepted.
6. Used intervention treatments (defined as actions performed to reduce or discourage disruptive behavior in school) including programs, academic or behavioral practices, therapies, counseling, or pharmacological interventions that target students with behavior problems.
7. Published in English.

Limiting the inclusion of articles to those

published in English substantially constrained the scope of generalization of the review findings. However, this limitation allows for future research by teams of bilingual or trilingual authors to expand this study. Other articles excluded from the review were studies that focused on adults, rehabilitation, or disabilities such as developmental disabilities (mental retardation or intellectual disability), autism, and attention deficit hyperactivity disorder (ADHD) as well as case studies, conference papers, books, chapters, reports, editorials, and unpublished theses and dissertations.

## Coding Procedures

We established several coding categories before conducting the search to compare and contrast selected articles. Coding categories included author information, country of origin, description of the treatment/intervention, summary of results, research design and assessment tools used for the study, disability label or subject description and any diagnostic criteria used to define this population for the study, subject's demographic information, and educational setting where the intervention took place. We decided that this information provided enough details allowing readers to assess if the intervention could be replicated in their country.

## Reliability Measures

To check the reliability of the article selection procedure, 36% of selected articles were reassessed using similar procedures used by Artiles et al. (1997). We used a statistical table of random numbers to select the articles from this study. We then used the selection procedures outlined in this article to assess if the articles met the requirements for inclusion in this study. Interrater agreement for article selection was 1.00. Reliability data were not collected on the search procedures.

## Results

We searched five electronic databases for international scholarly articles in the fields of education, special education, and psychology. The indexes Academic Search Premier, Educational Full Text, Eric (CSA) Illumina, Family and Society Studies Worldwide, and PsychINFO databases identified a total of 3,272 articles as candidates for review of which

**TABLE 1**  
**Databases and Search Results From 2000 to 2005**

<i>Database</i>	<i>Articles</i>			<i>Search Field Code</i>
	<i>n</i>	<i>Selected</i>	<i>Relevant</i>	
Academic Search Premier	71	0	0.00	Keyword (KW)
Educational Full Text	397	0	0.00	KW
Eric (CSA) Illumina	1152	2	0.17	KW
Family and Society Studies Worldwide	152	0	0.00	KW not available, used descriptors (DE) "child" and "adolescent"
PsychINFO	840 <sup>a</sup>	2	0.24	KW, peer reviewed, English, human, quantitative, and birth-to-12-year-olds
PsychINFO	660 <sup>a</sup>	2	0.30	KW, peer reviewed, English, human, quantitative, and 13-to-17-year-olds
Total Articles	3272	6 <sup>b</sup>	0.18	

<sup>a</sup> Some overlapping articles. <sup>b</sup> Four unique articles.

four met selection criteria. Table 1 details the search results for the years 2000 to 2005. PsychINFO initially returned 10,606 articles matching the keywords used in the search procedures. Because this database allowed additional descriptors to be selected narrowing the number of articles presented, the search was conducted twice using the additional descriptors "children" and "adolescents." This new search resulted in some overlap of articles since children in middle school were often included under both descriptors. Potential articles were downloaded directly from most databases to be analyzed according to the

selection procedures. Using interlibrary loan, we received the few articles unavailable online via e-mail.

After conducting an Internet search for additional international journal titles using the Google search engine and the search procedures outlined, 12 journals were identified as having potential articles for this review. However, during the course of the hand search of the journals, we realized that several journals could not be included in this review due to (a) the lack of a full set of journals published consistently between 2000 and 2005, (b) the lack of articles meeting selection criteria, or (c)

**TABLE 2**  
**Hand Search Results of Journals From 2000 to 2005**

<i>Journal</i>	<i>Issues Published</i>	<i>Articles</i>		
		<i>n</i>	<i>Selected</i>	<i>Relevant</i>
<i>British Journal of Special Education</i>	24	167	6	3.6
<i>Emotional and Behavioural Difficulties</i>	20	85	2	2.4
<i>European Journal of Special Needs Education</i>	19	134	0	0.0
<i>International Journal of Special Education</i>	10	103	0	0.0
<i>School Psychology International</i>	25	186	0	0.0
Total Articles	—	675	8	1.2

**TABLE 3**  
**Excluded Journals From Hand Search Results 2000 to 2005**

<i>Journal</i>	<i>Issues Published</i>	<i>Articles</i>		
		<i>n</i>	<i>Selected</i>	<i>Relevant</i>
<i>Asia Pacific Journal of Education</i>	2	16	0	0.0
<i>Child and Adolescent Mental Health</i>	12	77	0	0.0
<i>International Journal of Behavioural Development</i>	18	162	0	0.0
<i>International Journal of Disability, Development, and Education</i>	12	89	0	0.0
<i>Journal of Research in Special Education Needs</i>	9	56	0	0.0
<i>Journal of Special Education in the Asia-Pacific</i>	1	9	0	0.0
<i>South African Journal of Education</i>	Articles not available to researcher			
Total Articles	–	409	0	0.00

other research and methodological issues. Table 2 lists the 5 journals included in this review which produced 675 potential articles of which 8 met the selection criteria. Some articles that met this selection criterion had been previously identified in the initial database search.

Table 3 references the 7 journals excluded from this review synthesis. They are listed to illustrate the scope of international scholarly journals focusing on special education research published in English. This list of excluded articles may enable further research on this topic if these journals are published regularly in the future. Out of 3,947 articles identified through database and hand searches (not including the 409 articles from Table 3), only 11 articles met the selection criteria for this review illustrating eight unique interventions being researched on students with behavior disorders outside the United States.

## Interventions

Eight unique interventions using quantitative methods to assess the effectiveness of treatment were found for children with behavior disorders outside the United States from 2000 to 2005. Although the principles of applied behavior analysis are often used in interventions identified as effective in the United States (Lewis et al., 2004; Lloyd et al., 1998; Stage & Quiroz, 1997), few international studies shared this orientation. Six programs used psychotherapy, massage, and holistic

treatments (Cooper et al., 2001; Cullen-Powell & Barlow, 2005; O'Connor & Colwell, 2002; Renwick, 2005; Renwick & Spalding, 2002; Spalding, 2000); three articles focused on social skills training programs (Charlesbois et al., 2003; Desbiens & Royer, 2003; Maddern, Franey, McLaughlin & Cox, 2004); one article targeted language and communication skills (Sage, 2002); and one article addressed using direct observation to assess student behavior after an inservice training program for teachers (Swinson & Cording, 2002). Although most programs targeting teachers and parents were excluded from this review, the Swinson and Cording study was included because the intervention's effectiveness was measured by directly observing the behavior of students with EBD. The eight interventions are summarized below.

1. A Quiet Place (Renwick, 2005; Renwick & Spalding, 2002; Spalding, 2000) provided a therapeutic holistic support program. Treatment included one session of outcome oriented psychotherapy, massage, and biofeedback-supported relaxation per week in a dedicated room designed to promote a sense of peace and relaxation.
2. Nurture Groups (Cooper et al., 2001; O'Connor & Colwell, 2002) met in self-contained classrooms. These groups applied a therapeutic approach to intervention guided by the philosophy of attachment theory and Maslow's hierarchy of needs which caters to students who have



difficulty achieving a sense of security and safety.

3. Self-Discovery Programme (Cullen-Powell & Barlow, 2005) combined various elements to assist development of a sense of self-worth by teaching sensory awareness, peer massage (hands), communication, and relaxation. Intervention was 45 min per week delivered by a tutor trained in the field of complementary therapy (including massage and holistic therapies).
4. PARC Programme (Programme d'autocontrôle, de résolution de problèmes et de compétence sociale pour les élèves du primaire ayant des troubles du comportement) delivered a self-control, problem-solving, and social competency program for primary school students with behavior problems (Desbiens & Royer, 2003). PARC was adapted and used to teach social skills using prosocial peers during two to four 30-to 60-minute workshops per week. The program is based on a cognitive behavior approach aimed to reduce the incidence of disruptive behavior by increasing children's control over their own behavior.
5. (Un-named) social skills program (Maddern et al., 2004) promoted children's cooperative skills and anger management. It was taught for 90 min per week by a team including a clinical psychologist, educational psychologist, community psychiatric nurse, and assistant psychologist.
6. (Un-named) academic and social skills training (Charlesbois et al., 2003) delivered reading and self-regulation training for students with parental support. This included social skills training for parents and teachers.
7. Communication Opportunity Group Scheme (COGS; Sage, 2002) developed formal language and thinking skills to enhance performance of able and less-able children using a "tell, show, do, and coach approach." It was taught 1 hr per week for 10 weeks or 2-hr per day for 5 days.
8. Assertive Discipline (Swinson & Cording, 2002) provided inservice training for teachers consisting of three 2-hr sessions over 3 weeks. Results were measured through direct observation of student behavior.

Note that the three articles for A Quiet Place intervention only reported on two research studies. The article published by Renwick (2005) was a "reconsideration of data" from the study by Renwick and Spalding (2002), which was a follow-up study to the article published by Spalding (2000). See Table 4 for an overview of all studies.

## Research Methodology

As detailed in the selection procedures, only studies employing quantitative methodology were included in this review. The most frequently used method to determine the effectiveness of classroom interventions was quasi-experimental designs with preintervention and postintervention data collection. Some studies added control groups which were matched with the intervention group for traits such as age, gender, and socioeconomic status. Half of the studies identified in this review were 1 to 3 years in length. The other studies were conducted in 6 to 20 weeks. No single subject or pure experimental studies were found.

## Assessment Instruments

Although all studies reported the use of some quantitative methodology, details about the assessment process and instruments used in the study were often lacking or difficult to determine. Therefore, many of the assessments reported might be considered subjective rather than objective measures in the strictest sense. Direct observation of student behavior was used in a few articles and the majority of studies relied on rating scales, behavior profiles, and questionnaires completed by classroom teachers or others in the educational environment. As a result, effect sizes for the interventions could not be reported for the selected articles. See Table 5 for the description of assessment tools provided in some of the articles.

## Defining Students

Worldwide, a variety of terms describe students with behavior disorders. This was problematic for a literature review of this scope. Terms found to describe students in this study include (a) emotional and behaviour difficulties, (b) social, emotional, and behaviour difficulties, (c) special education

TABLE 4

## Quantitative Research on Classroom Interventions for Students With Behavior Disorders Outside the United States From 2000 to 2005

<i>Author (Country)</i>	<i>Intervention</i>	<i>Results</i>	<i>Research Design</i>	<i>Assessment</i>	<i>Disability Label (Diagnostic Criteria)</i>	<i>Subjects (Age/Grade Level)</i>	<i>Setting</i>
Charlesbois, P., Brendgen, M., Vitaro, F., Normandeau, S., & Boudreau, J. F. (2003) (Canada)	Reading, self-regulation, and social skills training for students	The number of attended sessions positively related to postintervention performance.	Quasi-experimental using pretest/posttest design during a 3-year longitudinal study.	a. Peer Evaluation Inventory (PEI) b. Academic Standards Assessment	Disruptive students  (Above 70th percentile on PBQ)	58 Boys  (K-3)	General education classroom
Cooper, P., Arnold, R., & Boyd, E. (2001) (United Kingdom)	Nurture Groups	A statistically significant improvement in SDQ and Boxall Profile scores as rated by the teacher.	Quasi-experimental with matched control group using pretest/posttest design during a 2-year longitudinal study.	Boxall Profile	Social, emotional, and behavioural difficulties  (Levels assessed using SDQ)	342 pupils  (84% 4-to 7-year-olds, 16% 7-to 10-year-olds)	Nurture Group self-contained classroom
Cullen-Powell, L., & Barlow, J. (2005) (United Kingdom)	Self-Discovery Programme	An improved social competence with teachers, increase in contributions during class, increase in eye contact during intervention group, and improvements in prosocial behaviour and hyperactivity scores on the SDQ.	Quasi-experimental with matched control group using pretest/posttest design during a 1-year study.	a. SDQ b. Observations of children's ability to give and receive handshakes, body language and eye contact, participation and enjoyment, and attention to task	Special education needs, behavioural and learning difficulties, and at risk of being excluded from school  (Behavioural profiles consisting of nine questions were completed by teacher)	16 boys, 2 girls  (6-to 8-year-olds)	Self-contained classroom
Desbiens, N., & Royer, E. (2003) (Canada)	PARC Programme	No significant difference between treatment and control groups. The effect size for program participants was between 47% and 58%.	Quasi-experimental with matched control group using pretest/posttest design during a 10-week study.	a. Sociometric status and peer acceptance b. Social reputation among peers c. Social affiliations within the class d. Self-administered PSCC e. Teacher assessment scale for academic and social adaptation	Behavioural problems  (Screening adapted from SSBD)	33 boys, 21 girls  (Grade 3)	General education classroom

continues



**TABLE 4 (Continued)**  
**Quantitative Research on Classroom Interventions for Students With Behavior Disorders Outside the United States From 2000 to 2005**

<i>Author (Country)</i>	<i>Intervention</i>	<i>Results</i>	<i>Research Design</i>	<i>Assessment</i>	<i>Disability Label (Diagnostic Criteria)</i>	<i>Subjects (Age/Grade Level)</i>	<i>Setting</i>
Madden, L., Franey, J., McLaughlin, V., & Cox, S. (2004) (United Kingdom)	Social Skills Programme	A statistically significant reduction in children's anxiety scores, teacher obser- vation of anger man- agement problems, and several variables on the CTRS.	Mixed methods with a pretest/posttest design during a 20-week study.	a. Culture-Free Self- Esteem Inventories b. Spence Children's Anxiety Scale c. Social Competence with Peers Question- naire d. Observation e. Checklist (anger management) f. CTRS	Severe emotional and behaviour problems  (Stage 3 of code of practice for special educational needs)	8 boys  (Year 5 and Year 6)	Self-contained class- room
O'Connor, T., & Col- well, J. (2002) (United Kingdom)	Nurture Groups	Statistically significant changes between entry and exit from intervention with some significant scores after 2 years in mainstreamed reintegration.	Quasi-experimental using pretest/posttest design during a 2-year longitudinal study.	DDP	Emotional and behavioural difficulties	46 boys, 22 girls  (Mean age was 5.25 years old)	Nurture Group, self- contained classroom
Renwick, F. (2005) (United Kingdom)	A Quiet Place	A statistically significant improve- ment after a 6-week, 6-month, and 1 year follow-up observa- tion.	Reconsideration of data from Renwick and Spalding (2002).	Observation of classroom behaviour using five bipolar categories: a. Attention b. Self-awareness/self- esteem c. Impulse control d. Interpersonal skills e. Socialization	Emotional and behav- ioural difficulties	52 children  (Young children)	Self-contained class in a mainstreamed school

continues

**TABLE 4 (Continued)**  
**Quantitative Research on Classroom Interventions for Students With Behavior Disorders Outside the United States From 2000 to 2005**

<i>Author (Country)</i>	<i>Intervention</i>	<i>Results</i>	<i>Research Design</i>	<i>Assessment</i>	<i>Disability Label (Diagnostic Criteria)</i>	<i>Subjects (Age/Grade Level)</i>	<i>Setting</i>
Renwick, F., & Spalding, B. (2002) (United Kingdom)	A Quiet Place	A statistically significant increase in positive behaviours and a decrease in negative behaviours.	Quasi-experimental design using a treatment and matched control group during a 6-week study.	Observation in three settings: a. Teacher-led activity b. Independent activity c. Unstructured situation	Emotional and behavioural difficulties  (Boxall Profile)	54 children  (Year 1 to Year 6)	Self-contained class in a mainstreamed school
Sage, R. (2002) (United Kingdom)	A Communication Opportunity Group Scheme	A significant and positive difference between students receiving intervention compared to the control group.	Quasi-experimental study using a pretest/posttest design with a treatment and control group along with parent and student interviews during a 10-week study.	Target speaking and writing competencies in five activities	Emotional and psychiatric difficulties  a. Appearance on the special needs register b. Inappropriate behaviour in school and limited social interaction c. Reports from teachers indicating communication needs	24 students  (Primary and secondary grades)	Mainstreamed school
Spalding B. (2000) (United Kingdom)	A Quiet Place	Not statistically significant. Children who experienced most gains had emotional needs linked to low self-esteem, anger management, or transitioning to a new school after exclusion/suspension.	Quasi-experimental study using a pretest/posttest design with a treatment and control group along with parent and teacher interviews during a 6-week study.	a. Boxall Developmental Strands b. DDP	Emotional and behavioural difficulties  (Boxall Developmental Strands and DDP)	22 children  (Age and grade unspecified)	Self-contained class in a mainstreamed school

continues

**TABLE 4 (Continued)**  
**Quantitative Research on Classroom Interventions for Students With Behavior Disorders Outside the United States From 2000 to 2005**

<i>Author (Country)</i>	<i>Intervention</i>	<i>Results</i>	<i>Research Design</i>	<i>Assessment</i>	<i>Disability Label (Diagnostic Criteria)</i>	<i>Subjects (Age/Grade Level)</i>	<i>Setting</i>
Swinson, J., & Cording, M. (2002) (United Kingdom)	Assertive Discipline	A statistically significant increase in student's on-task behaviour and decrease in disruptive incidents following a statistically significant increase in teacher praise statements and decrease in use of negative statements.	Pretest/posttest obser- vations of student and teacher behaviours	Observation of student's on/off task behaviour using the Pupil Behaviour Schedule.	Emotional and behav- ioural difficulties	Eight classes of 6–12 students (7- to 16-year-olds)	Separate school

*Note.* CTRS = Conners' Teacher Rating Scale and Conners' Parent Rating Scale; DDP = Diagnostic Developmental Profile; PBQ = Preschool Behaviour Questionnaire; PCSC = Perceived Competence Scale for Children; PEI = Peer Evaluation Inventory; SDQ = Strengths and Difficulties Questionnaire; SSBD = Systematic Screening for Behaviour Disorders.

**TABLE 5**  
**Descriptions of Assessments**

<i>Assessment</i>	<i>Description Provided in Article</i>
Boxall Profile	A detailed normative, diagnostic instrument completed by the Nurture Group teacher which can be used to measure a child's level of emotional and behavioural functioning and highlight specific targets for intervention within a child's individual functioning. Includes a rating questionnaire.
Diagnostic Developmental Profile, (DDP)	A 34-item questionnaire used to identify student needs, plan intervention, and chart student progress.
Peer Evaluation Inventory (PEI)	The likeability and aggressiveness-disturbance scale of the PEI was used. Students were given a roster of all classmates and were asked to write the names of three classmates for each of the two categories: (1) peers whom they liked the most, who seemed to always understand what was going on, and who helped others (likeability); and (2) peers who started fights, disrupted the classroom the most, laughed at others, told lies, cheated, made up stories, and said they could beat up other kids (aggressiveness-disturbance).
Perceived Competence Scale for Children, (PCSC)	A self-administered questionnaire with 28 items assessing four fields of competence: academic, social, sports, and self-esteem.
Strengths and Difficulties Questionnaire, (SDQ)	A 25-item behaviour screening questionnaire measuring five sub-scales: hyperactivity, conduct problems, emotional symptoms, peer problems, and prosocial behaviour. It produced results consistent with more established behaviour rating scales such as Achenbach's "Child Behaviour Checklist" and Rutter's "Child Behavioural Rating Scale."

needs, (d) behaviour problems, (e) emotional and psychiatric difficulties, (f) disruptive boys, (g) seriously emotionally disturbed, and (h) aggressive behaviour. The variety of terms used to describe students with behavior problems confirms Lopes' (2005) notion that "when no scientific classification system is available, everyone uses their own system. Communication becomes difficult between professionals, since no one can be sure that the category he/she is talking about is understandable to others" (p. 346).

Diagnostic criteria for assigning labels or providing an intervention for problem behavior was equally as varied as terms used to define students. The scope of solutions found in this review included questionnaires, behavior screening instruments, behavior profiles, and teacher reports of inappropriate behavior.

### **Student Age and Gender**

Eight of the 11 studies were conducted with elementary-age children, one study specifically targeted high school students, one study targeted primary and secondary-age students, and one study did not specify

the age or grade level of students in the study. Five of the studies specified the gender of the students, of which the majority of subjects were boys.

### **Setting**

A vast majority of interventions took place in self-contained schools, classrooms, or segregated environments. Only three studies reported conducting intervention in general education classrooms or mainstreamed schools.

### **Country of Origin**

According to this literature review, the countries producing quantitative studies of interventions for students with behavior disorders are England ( $n = 9$ ) and Canada ( $n = 2$ ). Other countries identified in this study for publishing scholarly articles on this topic but did not meet the selection criteria for this review include Australia, Chile, China, Cyprus, Finland, Germany, Greece, Ireland, India, Japan, Netherlands, and Scotland.

## Discussion

The purpose of this literature review is to identify interventions being researched outside of the United States for students with behavior disorders. Despite searching over 4,000 articles published over 6 years, only 11 studies met the criteria set forth at the outset of this review. The fact that 6 of those studies reported on therapeutic treatments contrasts sharply with the majority of studies published in the United States on intervention for students with EBD, which focus primarily on academic and behavioral interventions (Mooney et al., 2003; Stage & Quiroz, 1997).

The keywords specified in the methods section produced a very small percentage of relevant articles, but numerous articles had related areas of interest worth noting. Recurring topics included bullying; teacher, parent, and student perceptions and attitudes; parent training interventions; and comments and analysis on the inclusion movement primarily in Europe. In addition, there were numerous articles describing programs, longitudinal studies, policies, practices, self-reports, opinion papers, and qualitative narratives about students with behavior disorders. Articles on students with ADHD, intellectual disabilities, and severe disabilities were also found using the keywords for this study. Numerous articles discussed the influence of parenting styles as a negative factor in children's behavior problems. Overall, the abundance of articles on the topic of behavioral problems clearly illustrates that despite the scarcity of quantitative studies published worldwide, other nations view the topic of behavior problems in schools as critical.

A general theme that emerged from this review is the emphasis some countries place on interventions that use holistic treatments and therapeutic nurturing environments. This emphasis differs from the current American emphasis on changing behavior through principles of applied behavior analysis, functional behavior assessments, and a three-tiered positive behavior support plan. This difference in interventions shows that scientific focus tends to reflect the culture from which it emerges. It is possible that behavior modification is popular in the United States due to a practical culture which differs from reflexive or internalized cultures of other countries found in Europe or the Confucian cultures of some Asian countries (Lopes, 2001). In addition, although behavior problems in

schools requiring direct action and intervention on the part of educators may be a common problem in the United States, this may not be the case in other cultural settings. For example, although Portuguese schools are concerned about classroom disruption, this concern is at a different level than that experienced in the United States which is perceived by some as a more aggressive society (Lopes, 2001).

Although the majority of research on behavioral interventions is performed in the United States, it is important that all researchers and practitioners be open to various interventions and research not practiced in their respective countries. For example, the United States should remain receptive to successful interventions not yet practiced in this country. At the same time, due to cultural differences and schooling practices around the world, effective interventions implemented in one country may not work for students in another.

It may be argued that although choice of methodology and instrument selection for a study reflects the emphasis placed on the scientific process in a given nation, it also reflects the standard accepted for indicating a successful intervention. For example, in Portugal, quantitative measurement is not commonly used since it is believed to discriminate (Lopes, 2001). Differing emphases such as measurement in the United States versus using qualitative indexes outside the United States may explain the very small number of quantitative studies found for this international review. Because of cultural differences, it would be unfair to judge or compare standards set in various nations or to state that one nation's standard is better than another. However, this review does indicate that there are differences in intervention research for children with behavior disorders conducted throughout the international community. Overall, there is great variability in how the selected studies were conducted and reported. In the United States, replication is a hallmark of scientific research. Yet very few of the international studies cited in this review describe the subjects and intervention procedure in enough detail to replicate the study. In addition to the difficulties in research that this causes, its secondary effect is that educators cannot implement this research unless more detailed information is reported in future studies.

## Limitations of the Review

Several limitations of this literature review must be mentioned. One limitation is the scope of the selection criteria. Focusing on quantitative studies eliminated a large portion of international research and reports on interventions for students with behavior disorders. Many published articles from outside the United States offered narrative descriptions of programs and practices or attempted to use qualitative methodology. These studies should be considered for follow-up research. A second limitation is the selection of interventions targeting students. Numerous studies targeting parents and teachers for intervention and training were found but excluded. A third limitation is the number of databases and journals searched for this study. Expanding these searches could potentially identify additional studies that would meet the selection criteria for inclusion in this review. This limitation was set due to the availability of time and resources to conduct the research. Time also affected interrater reliability measures since only selected articles were reviewed and not the overall research procedures. A fourth limitation is the design and features available in the database search engine. Some database indexes provided advanced search features allowing a researcher to target articles if keywords entered were found in article abstracts, supplied descriptors, full text, or in other parts of the article. A few databases provided additional descriptors to narrow the search results to articles that were quantitative or qualitative or included adults, children, or adolescents. Other database indexes did not offer these features and only allowed a limited number of keywords. This variability in features made consistency in searches difficult. In order for results to be replicable, all searches were conducted via identical methods and procedures except where noted. We discovered that researchers must often seek the lowest common denominator when planning literature reviews using multiple databases. A fifth limitation of this review is in its international scope because it only reviewed one article from South America and one article from Asia. There were no articles reviewed from Africa, Central America, Eastern Europe, or the Middle East. This may be because articles published from these regions are not in English language journals or journals from these regions may not be available to American readers. In

addition, the articles may not be included in larger databases or there may simply not be substantial research being conducted on this topic in those regions. In order to aid in international research it would be helpful to identify and document intervention practices commonly used for children with behavior problems around the world.

## Implications for Future Research

The results from this international literature review confirm that there is a paucity of research-based interventions for children with behavior disorders outside the United States. Only eight programs out of a search of over 4,000 articles over 6 years were identified that provided quantitative evidence of effective interventions with this population of students. This paucity is not simply the result of a restriction of the literature review to the English language. Although language restrictions are certainly relevant, numerous nations that participate in English-language publications such as Australia, Canada, England, and several countries in Latin America express a need for effective interventions for their students with behavior disorders. Therefore, the lack of international research is a probable explanation for the small amount of documented research. Future research should begin with an assessment of the types of programs and interventions currently used with this population internationally.

The United States has produced numerous studies, reviews, and meta-analyses identifying interventions effective for American students. International researchers should consider whether these strategies might be suitable for replication and testing with students around the globe. Similarly, there is strong potential for students in the United States to benefit from greater researcher awareness of interventions from other countries. Future research on behavior disorders should be conducted and reported with an emphasis on the scientific process. Overall, expectation for treatment integrity and positive outcomes for students must be elevated. Students with behavior disorders are not endemic to any one nation or period in time. Whatever the country of origin, researchers should invest the time and resources necessary to identify and use effective interventions for students with EBD and then share the results with practitioners around the world.



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#### AUTHORS' NOTES

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#### MANUSCRIPT

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